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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,886	12/28/2000	David Wallman	SUN1P287/P4990	9423

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EXAMINER

FILIPCZYK, MARCIN R

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 02/17/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/752,886

Applicant(s)

WALLMAN, DAVID

Examiner

Marc R Filipczyk

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
4a) Of the above claim(s) 26 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-25 and 27-29 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Action is responsive to Applicant's RCE request and amendment filed on January 9, 2004 (paper # 12 and 13). The IDS received on 12/9/03 has been noted.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 9, 2004 has been entered.

Claims 1-25, 27 and 28 remain for examination, claim 26 has been canceled and claim 29 has been added.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following modification is suggested: Heaps should be incorporated in the title since the invention is based on heaps.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claims 1-15, 19-25 and 27-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth whether the invention is within the technological arts.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the “progress of science and the useful arts” (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a method claim to pass muster, the recited method must somehow apply, involve, use, or advance the technological arts.

In the present case, independent claim 1 only recites an abstract idea. The recited method is a computer listing per se and does not apply, involve, use, or advance the technological arts since the entire method can be performed by a program.

Since the claimed invention, as a whole, is not within the technological arts as explained above, claim 1, and claims 2-15, 19-25 and 27-29 which depend from claim 1, are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 112

1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-15, 19-25 and 27-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, the claimed subject matter, "method of executing a method" was not described in the specification or figures in such a way to enable one skilled in the art to which it pertains to make or use the invention.

Regarding claims 2-15, 19-25 and 27-29 depend from claim 1 and therefore inherit the deficiencies of that claim.

Appropriate explanation is required.

Claim Rejections - 35 USC § 112

2nd Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-25 and 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-15, 19-25 and 27-29, the segment, "method of executing a method" is indefinite. How does a method execute another method? What are the methods?

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Regarding claims 1-25 and 27-29, the data structure is indefinite. What is a data structure with addresses and source code?

Appropriate explanation is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claims 1-25 and 27-29 are rejected under 35 U.S.C. 103(a) as best as the Examiner is able to ascertain as being unpatentable over Pradhan et al (hereinafter "Pradhan") (U.S. Patent No. 6,446,257).

Regarding claims 1 and 16-18, Pradhan discloses a method and system executing steps to enable memory associated with objects not referenced external to the executed method to be reclaimed upon completion of execution of the executed method, comprising: (garbage collecting, fig.1, items 102, 106, 108, Pradhan)

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obtaining a data structure including one or more addresses of source code that creates objects; (see col. 8, lines 2-4 and fig. 2, 202, 220, Pradhan)

obtaining next source code in the source code of the method; (see col. 8, lines 2-4 and fig. 2, 202, 220, Pradhan)

determining whether an address of the obtained next source code is in the data structure; and (fig. 2, 214 and 220, Pradhan)

when the address of the obtained next source code is in the data structure including one or more addresses of source code that creates objects, (fig. 2, 206) creating an object on a heap of memory (col. 9, lines 26-30) using the source code associated with the address such that objects are stored in memory (fig. 2, 106 and 216, Pradhan).

Pradhan further discloses fig. 2, object (202), program (210), instructions (212) offset and address (214 and 220), heap (216), internal and external pointers (206 and 208) in memory (106) and dividing a heap into groups (col. 9, lines 36-40). Thus Pradhan disclosed all the necessary elements to store two heaps for local and non-local objects but did not expressly teach that exact embodiment. However, Examiner takes official notice that storing local and non-local objects in separate data structures (memories) was common and notoriously well known to the ordinary skilled in the computer art dealing with programming. In fact, it is inconvenient to store local and non-local variables in the same data structure because the system is less efficient.

Hence, having a system with a divided heap, objects, and both internal and external pointers, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified the divided heap and incorporate the systems internal and external (local and non-local) pointers to point to objects and create local and non-local objects

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by storing the objects in a local and non-local heap. One would have stored local and non-local objects in two distinct heaps to increase input/output processing.

Regarding remaining claims 2-15, 19-25 and 27-29 depend from claim 1, contain similar subject matter and therefore are rejected on the same basis.

Response to Arguments

Applicant's arguments filed on January 9, 2004 have been fully considered but they are not persuasive. The arguments and responses are listed below.

Applicant argues in the 1/9/2004 response that, "The method claimed in claim 1 is one that executes a method, which is a term well known in the art of software programming."

Examiner disagrees. A method that executes a method is not well known in the art of software engineering. After second detailed analysis of claim 1 in view of Applicant's response, statutory issues have been raised (see 35 U.S.C. 101 rejection above).

(for more information see previous correspondence)

Applicant argues on page 9 of the 6/5/03 response that, "the method claimed in claim 1 is one that executes a method, which is a term well-known in the art of software programming. There is only one method that is claimed."

Examiner disagrees. Claim 1, line 1 recites, a method of executing a method. Examiner does not understand the meaning of a method executing a method. Method alone or in combination with another method needs to be initiated by some process or action. Applicant states that only one method is claimed. However, that is

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not what is written in the claim. Both methods must be defined in the claim or the claim has to be rewritten if the applicant wishes to maintain that, "There is only one method that is claimed."

Applicant argues in the 1/9/2004 response that, "In no manner does Pradhan disclose or suggest storing local and non-local objects in separate heaps." Also, "In fact, Pradhan discloses that a heap may be divided into two or more groups segregated by age, where groups are referred to as generations."

Examiner disagrees. Applicant admits that Pradhan discloses that a heap may be divided into groups segregated by age (col. 9, lines 36-40), however, the Applicant fails to notice the similarity between the claimed invention and the prior art (Pradhan). Segregating a heap is equivalent to having separate heaps in the same memory, further, Pradhan uses internal and external pointers for object allocation and accessing (fig. 2), thus Pradhan clearly suggests using two heaps for local and non-local objects.

Applicant argues in the 1/9/2004 response that Agesen and the invention were at the time the invention was made owned by Sun Microsystems.

Examiner agrees. Agesen is withdrawn from the rejection.

With response to all the pending claims 1-25 and 27-29, Examiner respectfully traverses Applicant's assertion based on the discussion cited above.

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Conclusion

To expedite the process of examination Examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. 35 U.S.C. 112, objections and the like) set forth by the Examiner that Applicants provide and link to the most specific page and line numbers of the disclosure where the best support is found (see 35 U.S.C. 132).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc R Filipczyk whose telephone number is 703-305-7156.

The examiner can normally be reached on Mon-Fri, 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MF
February 12, 2004


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